



## Emergency Response Division (ERD)

**T**housands of incidents occur each year in which oil or chemicals are released into the environment as a result of accidents or natural disasters. Spills into our coastal waters, whether accidental or intentional, can harm people and the environment and cause substantial disruption of marine transportation with potential widespread economic impacts. The Emergency Response Division (ERD) of NOAA's Office of Response and Restoration (OR&R) provides scientific expertise to support an incident response and initiates natural resource damage assessment. This integrated approach provides for an efficient and effective response, minimizing the harm to people, reducing the negative impacts to the economy and enhancing environmental recovery. Under the National Contingency Plan, NOAA has responsibility for providing scientific support to the Federal On-Scene Coordinator (FOSC) for oil and hazardous material spills. To support this mandate, ERD provides 24-hour, 7 day a week response to spill events.

NOAA Scientific Support Coordinators (SSCs) coordinate scientific information and provide critical information to the Federal On-Scene Coordinator (FOSC).



In addition to the SSC, ERD Natural Resource Scientists also provide support to the FOSC, assessing the extent of environmental injury and recommending emergency restoration actions. A multidisciplinary team of ERD scientists, that includes oceanographers, modelers, biologists,

chemists, and geologists, are based in Seattle and support the SSCs and Natural Resource Scientists during spill events as well

as for drills, exercises, and contingency planning. SSCs and Natural Resource Scientists are strategically located around the country, often within U.S. Coast Guard (USCG) offices, effectively providing local services to a range of users in public and private sectors. ERD services include:

- Supporting emergency response and restoration activities;
- Assisting in the development of contingency plans;
- Developing tools for local decision makers; and
- Providing training.

ERD facilitates spill prevention, preparedness, response, and restoration at national and local levels. By working at both national and local levels on planning activities, ERD provides expertise on such issues as dispersant use, alternate response technologies, response countermeasures, assessment of natural resource injury, and emergency restoration actions.

ERD's scope encompasses the entire U.S. coastline, including the Great Lakes, Alaska, Hawaii and U.S. territories. In the last twenty-five years, ERD has responded to virtually every major marine spill in the U.S. In addition, ERD's expertise is frequently sought internationally. While oil and chemical spills are the major focus, ERD also provides support for incidents such as downed aircraft, search and rescue, and tracking floating objects.

### Response

The Emergency Response Division typically responds to over 150 incidents annually. Some of the most notable responses in 2008 and 2009 included:

- *M/V Cosco Busan*. The container ship *M/V Cosco Busan* struck the Bay Bridge in San Francisco Bay, CA on November 7, 2007. An approximate 100' gash in the hull of the vessel resulted, and 58,000 gal of fuel oil (IFO 380) was released into the water. NOAA's ERD staff responded providing trajectory forecasts of oil movement, consultation on clean-up techniques, shoreline assessments and coordination of weather forecasts and other science activities.
- *Barge DM 932*. On July 23, 2008, the *T/V Tintomara* collided with the tug/barge (*M/V Mel Oliver* and *DM932*) near downtown New Orleans, LA, resulting in a spill of more than 380,000 gallons of #6 fuel oil. Over the next several months, ERD supported the incident operations providing science coordination, trajectory forecasts, shoreline assessments and cleanup assessments. Operations were temporarily halted during the passage on September 1, 2008 of Hurricane Gustav and, subsequently, Hurricane Ike.
- *Hurricanes Gustav and Ike*. On September 1, 2008, Hurricane Gustav made landfall on the Louisiana coast, reaching into Florida with destructive rain bands and

tornadoes. Only two weeks later, on September 13, 2008, Hurricane Ike made landfall during the early morning hours in the Galveston/Houston area of Texas. ERD provided scientific support to the USCG, EPA and FEMA in responding to the numerous incidents generated as a result of the storms.

- Eugene Island Pipeline Spill. On July 26, 2009 oil was observed approximately 33 miles offshore and 60 miles southwest of Houma, Louisiana. The oil was subsequently identified as coming from a leak from the Eugene Island Pipeline System. An estimated 63,000 gallons of oil was released. Pre-approved dispersant was applied to the heaviest concentrations of the spill and a significant amount of skimming was done. In addition to identifying resources at risk, ERD provided trajectories and coordinated monitoring for efficacy of the dispersant application.

## Preparedness

ERD develops tools, guidelines, and small, field-oriented job aids to assist preparedness for response communities. In addition, NOAA has provided standard techniques for observing oil, assessing shoreline impact, and evaluating and selecting cleanup technologies that have been widely accepted by response agencies.

Environmental Sensitivity Index (ESI) maps are used to identify vulnerable resources and habitats in advance of emergencies so that appropriate response actions can be planned. ERD works with local

experts to develop or update these maps throughout the country. Maps are published in hardcopy and digital formats, and translators are maintained to assist in using this data in GIS environments.

Some of the more widely distributed tools ERD develops include a trajectory forecasting tool, GNOME; the oil weathering model, ADIOS; and the chemical hazard tools, CAMEO and the Chemical Reactivity Worksheet. Used with its location files, GNOME provides a mechanism for end-users to explore various potential spill scenarios. The Automated Data Inquiry for Oil Spills (ADIOS) provides planners and responders with information on how thousands of different oils could physically or chemically change over time under various scenarios. The Computer Aided Management of Emergency Operations (CAMEO) program, developed jointly with the Environmental Protection Agency, provides first responders with information and tools for chemical incidents.

## Training

ERD provides training to individuals in industry and government on the scientific aspects of oil and chemical spill response. Over 1000 individuals were trained in 2009. The goal of ERD training is to transfer scientific expertise and experience to the broadest possible audience. Successful training promotes more efficient planning and spill response. Each month, an average of 40,000 individuals visit the ERD Web site ([www.response.restoration.noaa.gov](http://www.response.restoration.noaa.gov)), where additional reports, response tools, and training materials are available.

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*NOAA's Office of Response & Restoration—Protecting our Coastal Environment*

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**For further information about NOAA's Office of Response and Restoration,  
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